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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/687,547	10/16/2003	David S. DeVincentis	9005/11	7716

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EXAMINER

HUGHES, DEANDRA M

ART UNIT	PAPER NUMBER
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3663

DATE MAILED: 03/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/687,547

Applicant(s)

DEVINCENTIS ET AL.

Examiner

Deandra M Hughes

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 24 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-48 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-48 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-13, 16-28, 31-45, and 48 are rejected under 35 U.S.C. 102(e) as being anticipated by Cabrera (US 6,381,394 filed Sep. 3, 1999).

With regard to claim 1, Cabrera discloses an optical amplifier module containing at least one optical amplifier (fig. 3), said module comprising an internal housing (fig. 4) having an outer dimension substantially equal to an outer dimension of an internal fiber splice housing (the outer dimension of amp pair #330 abuts the outer dimension of the splice housing in fig. 3) of an undersea (col. 1, line 17) optical fiber cable joint, said internal housing including:

- a pair of opposing end faces (fig. 4, #370) each having a retaining element for retaining the internal housing within an outer housing of said undersea optical fiber cable joint (fig. 3);
- a sidewall (#320, #321, #322) interconnecting said opposing end faces and extending between said opposing end faces in a longitudinal direction (fig. 3, #333), said sidewall including a receptacle portion having a plurality

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of thru-holes (note the holes on the side of module in fig. 4) each being sized to receive a passive optical component employed in the optical amplifier (fig. 13, splicing/routing fibers #800-#809).

With regard to claim 16, Cabrera discloses a hermetically sealed outer housing of an undersea optical fiber cable joint (col. 1, line 17; hermetic sealing of undersea repeaters is inherent; e.g. note col. 1, line 25; the outer housing is the repeater itself; note col. 2, lines 15-25), an optical amplifier module comprising:

- a protective sleeve (internal structure; fig. 3);
- an internal housing located in said protective sleeve (fig. 4 fits into fig. 3), said internal housing including:
  - o a pair of opposing end faces (fig. 4, #370) each having a retaining element for retaining the internal housing within an outer housing of said undersea optical fiber cable joint (fig. 3);
  - o a sidewall (#320, #321, #322) interconnecting said opposing end faces and extending between said opposing end faces in a longitudinal direction (fig. 3, #333), said sidewall including a receptacle portion having a plurality of thru-holes (note the holes on the side of module in fig. 4) each being sized to receive a passive optical component employed in the optical amplifier (fig. 13, splicing/routing fibers #800-#809).

With regard to claim 33, Cabrera discloses an undersea optical repeater (col. 1, line 17; and col. 2, line 17), comprising an external, hermetically sealed outer housing of

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an undersea optical fiber cable joint (col. 1, line 17; hermetic sealing of undersea repeaters is inherent; e.g. note col. 1, line 25; the outer housing is the repeater itself; note col. 2, lines 15-25), an optical amplifier module comprising:

- a protective sleeve located in said outer housing (internal structure; fig. 3);
- an internal housing located in said protective sleeve (fig. 4), said internal housing including:
  - o a pair of opposing end faces (fig. 4, #370) each having a retaining element for retaining the internal housing within an outer housing of said undersea optical fiber cable joint (fig. 3);
  - o a sidewall (#320, #321, #322) interconnecting said opposing end faces and extending between said opposing end faces in a longitudinal direction (fig. 3, #333), said sidewall including a receptacle portion having a plurality of thru-holes (note the holes on the side of module in fig. 4) each being sized to receive a passive optical component employed in the optical amplifier (fig. 13, splicing/routing fibers #800-#809).

With regard to claims 2, 17, and 34, the thru-holes extend lateral through the receptacle portion (see holes in fig. 3 for amp pair #330).

With regard to claims 3, 18, and 35, fig. 3 discloses a generally cylindrical shape for the housing.

With regard to claims 4, 19, 31-32, 36, and 48, the fiber (fig. 3, #600) may be spliced to any other optical cable.

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With regard to claims 5, 20, and 37, the spring plates #340 of fig. 14 are the retaining elements for the cable termination units.

With regard to claims 6, 21, and 38, the spring plates #340 of fig. 14 extend throughout the internal housings and are attached to the optical cable #600.

With regard to claims 7, 9, 22, 24, 39, and 41, the optical fiber spools are the storage area (fig. 10, #570; col. 5, line 40).

With regard to claims 8, 23, and 40, the power supply (fig. 14, #301) is the at least one circuit board.

With regard to claims 10, 25, and 42, fig. 4 is one half of an optical amplifier pair (col. 6, line 42).

With regard to claims 11, 26, and 43, the power supply (fig. 14, #301) forms a substantially continuous plane in that it smoothly abuts the housing.

With regard to claims 12, 27, and 44, note that lip extending inwardly from, and recessed below the mating surface (fig. 4, the lip at the top near #370).

With regard to claims 13, 28, and 45, the ribbed members are (fig. 4, #320, #321, #322) and the tension rod is shown in fig. 14 (note the rod that extends through the modules). This tension rod is connected to the spring plate #340.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claims 14-15, 29-30, and 46-47 rejected under 35 U.S.C. 103(a) as being unpatentable over Cabrera (US 6,381,394 filed Sep. 3, 1999).

Cabrera does not specifically disclose the claimed dimensions of the optical amplifier module. However, it would have been obvious to one of ordinary skill in the art (e.g., an optical engineer) to reduce or enlarge the optical amplifier modules as a function of the bending radius (col. 5, lines 48-68) for the advantage of enhancing optical confinement.

Further, a change in size does not present a patentably distinct limitation (*In re Rose*, 220 F.2d 459, 463, 105 USPQ 237, 240 (CCPA 1955)).

### ***Double Patenting***

5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

6. Claim 1 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. US 6,870,993. Although the conflicting claims are not identical, they are not patentably distinct from

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each other because claim 1 of the instant application is merely one of the claimed plurality of modules claimed in claim 1 of the conflicting application.

Further, claim 1 of the instant application does not claim a segment of undersea optical transmission cable. However, claim 1 of the instant application is for undersea use. It is an optical amplifier, which must by necessity, be connected to a segment of transmission cable. Consequently, it would have been obvious to one of ordinary skill in the art (e.g., an optical engineer) to connect the invention of claim 1 in the instant application to a transmission cable for the advantage of optical signal amplification.

7. Claims 8, 23, and 33 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 20, and 40, respectively, of copending Application No. 10/715,330. Although the conflicting claims are not identical, they are not patentably distinct from each other because claim 8 of the instant application is merely broader in that it does not claim the isolated electrical path.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

### ***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Toth discloses undersea optical amplifiers.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Deandra M Hughes whose telephone number is 703-306-4175. The examiner can normally be reached on M-F, 8:30am-5:00pm.



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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas H Tarcza can be reached on 703-306-4171. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Deandra M Hughes  
Examiner  
Art Unit 3663